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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/929,473

08/13/2001

George W. Peters

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06/23/2005

MORLAND C FISCHER

2030 MAIN ST

SUITE 1050

IRVINE, CA 92614

EXAMINER

WONG, ALBERT KANG

ART UNIT

PAPER NUMBER

2635

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/929,473

Applicant(s)

PETERS, GEORGE W.

Examiner

Albert K. Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 11-15 and 17-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-27 is/are allowed.
- 6) ☒ Claim(s) 1-7, 11-15 and 17-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. This Office action is in response to the amendment filed April 14, 2005. Claims 1-7, 11-15, and 17-27 are pending. Claims 8-10 and 16 have been cancelled. Claims 1, 6, 11, 12, 17-18, 20, 23, and 26-27 have been amended as requested.

Prior rejection withdrawn

2. The prior rejections of the claims under 35 U.S.C. 112, second paragraph, and 35 U.S.C. 103 have been withdrawn in view of the amendments.

New rejections

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milloy in view of Bennett.

Regarding claim 1, Milloy teaches the use of a monitoring system for a well with a transmitter located in a potentially explosive environment. Milloy teaches on col. 5, lines 35-40 that an RF (wireless) communication system may be used as long as it is explosion proof. It is known that electronic equipment may cause explosions in environments due to sparks formation. Equipment that uses high voltage or high power are more prone to spark formation. It would have been obvious to use a transmitter with low power consumption to avoid sparks. The monitoring unit is shown as item 42. Milloy does not teach a relay unit or the connection to a phone system. Bennett teaches a relay unit, that is a transceiver, to extend the reach of the monitoring unit to the host unit. The relay is used in an explosive environment and thus, is

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considered analogous art. Bennett teaches that the relay may be omitted if a limited range is sufficient and also teaches that the receiver may function as a relay by connecting to a telephone system. It would have been obvious to combine the teachings since both relate to the use of sensors in explosive environments. Bennett solves the problem of limited range in a low power communication system. Milloy merely teaches that the communication system be explosion-proof. Bennett teaches that one explosion-proof method uses an explosion-proof enclosure. One of ordinary skill in the art would be aware that a proper enclosure would be a part of an intrinsically safe communication system. Further, while Milloy does not teach a transceiver (Milloy teaches specifically a system that gets commands from a central controller), it mentions a telemetry system. Bennett is a telemetry system where the signals are sent from the monitor to the central unit. It would have been obvious to use a transceiver to permit bi-directional control. Typical telemetry systems monitor a condition which is sent to a central controller for analysis. The central controller then sends a command to affect the system to ensure proper operations.

Regarding claims 2-3, Milloy teaches the sensing of pressure in a well.

Regarding claims 4-5, the sensing of temperature and flame are conventional in a well environment. It would have been obvious that the remote sensing of well conditions is not limited to the particular use in Milloy. Remote sensing of conditions allows the user to control and optimize operations of wells located in hostile environments.

Regarding claim 6, the particular consumption of transmitter power is an obvious design choice. A higher power transmitter would give greater range with a higher risk of explosion. Thus, the particular power would depend on the range of explosive conditions around the well.

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Regarding claim 7, Bennett teaches that a repeater may use a wireless connection and that a repeater may be part of a telephone network. It would have been obvious that a telephone system would include a cellular system if a wireless system is advantageous.

5. Claims 11-15 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett 6,229,448 in view of Milloy 6,305,471 and Gastouniotis 5,438,329.

Regarding claim 11, the claimed monitoring unit is shown in Figure 2 of Bennett. The claimed relay unit is shown as item 26. Bennett does not teach the use of a monitoring system for a gas/oil well. (Although the limitation is merely in the preamble, which is typically given no weight, for the purposes of a complete Office action it is presumed that the body breathes life into the limitation) Milloy teaches the use of a transmitter in a well environment. As stated above, it would have been obvious to combine the references since they both pertain to the field of monitoring in an explosive environment. The relay unit in Bennett is outside the danger zone and communicates with a host interface which is shown as item 28. Bennett and Milloy do not teach a monitoring unit with bi-directional communication or a relay unit with bi-directional communication that interrogates the monitoring unit. Both Bennett and Milloy are telemetry systems. Gastouniotis teaches a telemetry system with interrogation and bi-directional communications. It would have been obvious to combine the teachings since they pertain to telemetry systems. Interrogation and bi-directional communication permits the reading of a specific sensor so that the user may obtain instant data.

Regarding claim 12, both Bennett and Milloy teach processing capability within the sensor unit. It would have been obvious to process data at anytime since the time is not critical to the invention.

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Regarding claim 13, Milloy teaches a pressure sensor.

Regarding claim 14, Bennett teaches a temperature sensor.

Regarding claim 15, this limitation has been addressed above.

Regarding claim 17, it would have been obvious that a variety of communication means may be used to relay the signal including LAN lines. Wired networks are conventional in remote monitoring systems and are used where there is a large number of sensors that transmits large quantity of data.

Regarding claim 18, Bennett teaches a gas tight housing containing sensor electronics in fig 3. The transceiver is located inside the housing along with the sensor electronics. As seen in figure 1, the antenna (item 22) is located outside the housing and the relay unit is shown as item 26. As stated above, Milloy teaches the use of transmitter system in well environments. Also, the use of the repeater to interrogate the sensor has been addressed above. See Gastouniotis reference.

Regarding claim 19, the use of particular transmitter power is considered and obvious design choice since it is not critical to the invention.

Regarding claim 20, the steps of sensing and transmitting data to a relay unit has been discussed above. Bennett teaches the use of a monitor that switches between a sleep and an active mode

Regarding claims 21-23, these limitations have been addressed above.

Remarks

6. Regarding claim 1, applicant has included the limitations of claim 9, but not claim 10.

Claim 10 has been indicated as allowable. Applicant asserts that the prior art does not teach a bi-

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directional communication system and/or the interrogation of the monitoring unit. The Examiner cites the Gastouniotis reference in support of the rejections of the claims reciting these limitations. Within telemetry system, it is conventional to use bi-directional communications for the purposes of data gathering and control. A bi-directional system permits the transfer of data to a host computer and the use of the host computer to send a command to affect the system. Further, a bi-directional system also permit the polling or interrogation of the sensors to obtain instantaneous data at desired intervals or conditions. Although the reference cited does not directly pertain to a well system, telemetry systems are found within a well environment. Both Bennett and Milloy are telemetry systems. Both features solve well-known problems in telemetry systems and thus, are considered analogous art. The other cited but not applied arts are further examples of bi-directional communication systems and telemetry systems using interrogation.

7. Claims 24-27 are allowed.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert K. Wong whose telephone number is 571-272-3057. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 571-272-3068. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Albert K. Wong
June 20, 2005

ALBERT K. WONG
PRIMARY EXAMINER